Johnson Controls

JWS-3

Installation and Operation Manual

Document 53550
1/12/10 Rev: A1
P/N: 53550:A1 ECN: 10-018

Fire Alarm System Limitations

While a fire alarm system may lower insurance rates, it is not a substitute for fire insurance!

An automatic fire alarm system—typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel with remote notification capability—can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premise following the recommendations of the current edition of the National Fire Protection Association Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in the Guide for Proper Use of System Smoke Detectors, which is made available at no charge to all installing dealers. These documents can be found at http://www.systemsensor.com/html/applicat.html.

A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that smoke detectors may not go off in as many as 35% of all fires. While fire alarm systems are designed to provide early warning against fire, they do not guarantee warning or protection against fire. A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second-floor detector, for example, may not sense a first-floor or basement fire.

Particles of combustion or "smoke" from a developing fire may not reach the sensing chambers of smoke detectors because:

- Barriers such as closed or partially closed doors, walls, or chimneys may inhibit particle or smoke flow.
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are located.
- Smoke particles may be blown away from detectors by air outlets.
- Smoke particles may be drawn into air returns before reaching the detector.

The amount of "smoke" present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.

Smoke detectors, even when working properly, have sensing limitations. Detectors that have photo-electronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast-flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.

Smoke detectors cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially in bedrooms), smoking in bed, and violent explosions (caused by escaping gas, improper storage of flammable materials, etc.).

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Rate-of-rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Heat detectors are designed to protect property, not life.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, crippling its ability to report a fire.

Audible warning devices such as bells may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol or medication. Please note that:

- Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
- Studies have shown that certain people, even when they hear a fire alarm signal, do not respond or comprehend the meaning of the signal. It is the property owner's responsibility to conduct fire drills and other training exercise to make people aware of fire alarm signals and instruct them on the proper reaction to alarm signals.
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.

A fire alarm system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

Equipment used in the system may not be technically compatible with the control panel. It is essential to use only equipment listed for service with your control panel.

Telephone lines needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily disabled. For added protection against telephone line failure, backup radio transmission systems are recommended.

The most common cause of fire alarm malfunction is inadequate maintenance. To keep the entire fire alarm system in excellent working order, ongoing maintenance is required per the manufacturer's recommendations, and UL and NFPA standards. At a minimum, the requirements of NFPA 72 shall be followed. Environments with large amounts of dust, dirt or high air velocity require more frequent maintenance. A maintenance agreement should be arranged through the local manufacturer's representative. Maintenance should be scheduled monthly or as required by National and/or local fire codes and should be performed by authorized professional fire alarm installers

Installation Precautions

Adherence to the following will aid in problem-free installation with long-term reliability:

WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. The control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until this manual is read and understood.

CAUTION - System Reacceptance Test after Software Changes. To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F) and at a relative humidity 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15-27° C/60-80° F.

Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

Like all solid state electronic devices this system may operate erratically or can be damaged when subjected to lightning-induced transients. Although no system is completely immune from lightning transients and interferences, proper grounding will reduce susceptibility. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services if any problems are anticipated or encountered.

Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits.

Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, and printed circuit board location.

Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

Though designed to last many years, system components can fail at any time. This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static-suppressive packaging to protect electronic assemblies removed from the unit.

Follow the instructions in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation by authorized personnel.

FCC Warning

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for class A computing device pursuant to Subpart B of Part 15 of FCC Rules, which is designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.

Canadian Requirements: This digital apparatus does not exceed the Class A limits for radiation noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la classe A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada. Cet appareil numerique de la classe A est conforme a la norme NMB-003 du Canada.

Documentation Feedback

Your feedback helps us keep our documentation up-to-date and accurate. If you have any comments, you can email us.

Please include the following information:

- Product name and version number (if applicable)
- Manual page number
- Your comment

Send email messages to:

FireSystems.TechPubs@honeywell.com

Please note this email address is for documentation feedback only. If you have any technical issues, please contact Technical Services.

Table of Contents

Section 1 JWS-3 Features

1.1 Product Description

The JWS-3 is a web-based device that acts as an HTML server that allows remote viewing of the NFN network (this includes high speed NFN networks) via the Internet or an Intranet. With the JWS-3 interface, the user can view the history of a fire alarm control panel (FACP), event status, device properties, and other information based on access permissions defined by the system administrator. All data available on the JWS-3 is a "snapshot" of the data on the NFN network at the time the browser requested the information. The JWS-3 communicates to NFN network version 5.0 and later. The JWS-3 interfaces to the Internet/Intranet using an IP-based wire Ethernet connection. The JWS-3 can also be used as web-based communication between the NFN network and VeriFire Tools. Refer to Appendix A, "JWS-3 Compatible Node Types", on page 47 for supported panels and annunciators.

1.1.1 JWS-3 Features

These are some of the features of the JWS-3.

- Ability to view NFN network nodes, system statuses, and properties remotely using the Internet or Intranet.
- Compatible with NFN network version 5.0 and above.
- One JWS-3 supports multiple users.
- Standard IP over Ethernet connection.
- Up to 128 user accounts are supported.
- Built-in password security and user access record
- Supports Microsoft Internet Explorer 6.0 and above.
- Intuitive web browser user interface.
- Sends up to 50 E-mails in response to any system event.

1.2 Related Documentation

Below is a list of documentation that relates to the use of the JWS-3.

Table 1.1 Related Documentation

For information on	Refer to	Part No.
Compatible Devices	Device Compatibility Document	15378
Cabinets & Chassis	CAB-3/CAB-4 Series Installation Document	15330
Offline Programming Utility	Veri•Fire™ Tools on-line help file Veri•Fire™ Medium Systems on-line help file	JVeriFire-TCD LVeriFire-CD
VeriFire-TCDNetworking	NFN Manual NCM-W/F Installation Document HS-NCM-W/SF/MF MIB Media Interface Board Manual	51584 51533 54014 50255
Panels and Annunciators	IFC-320 Installation/Operation/Programming Manual IFC-640 Installation/Operation/Programming Manual IFC2-640 Installation/Operation/Programming Manual IFC-3030 Installation/Operation/Programming Manual IFC2-3030 Installation/Operation/Programming Manual Network Control Annunciator (JNCA) Manual Network Control Annunciator-2 (JNCA-2) Manual Network Control Station (JNCS) Manual IFC-200 Instruction Manual IFC-300/400 Installation, Operation, and Programming Manual JDVC Series Digital Voice Command Manual	52858/52859/52860 51864/ 51865/51866 52835/52836/52637 52024/52026/52025 52563/52564/52565 51868 52570 52095 15511 15088 52567

1.3 Agency Listings

NOTE:
UL 864, 9th Edition—Intelligent Fire Integrator™ systems work with products that have been UL 864, 9th Edition listed as well as products that have not received UL 864, 9th Edition certification. Operation of systems that are comprised of equipment that is UL 864, 9th Edition listed together with products that are not UL 864, 9th Edition listed requires the approval of the local Authority Having Jurisdiction (AHJ).
CAN/ULC-S559-04, 1st Edition—Intelligent Fire Integrator™ systems work with products that have been CAN/ULC-S559-04, 1st Edition listed as well as products that have not received CAN/ULC-S559-04, 1st Edition certification. Operation of systems that are comprised of equipment that is CAN/ULC-S559-04, 1st Edition listed together with products that are not CAN/ULC-S559-04, 1st Edition listed requires the approval of the local Authority Having Jurisdiction (AHJ).

1.3.1 Compliance

This product has been investigated to, and found to be in compliance with the following standards.

National Fire Protection Association

- **NFPA 72**—National Fire Alarm Code

Underwriters Laboratories

- **UL-864**—Control Units for Fire Alarm Systems, Ninth Edition
- **UL-1076**—Proprietary Burglar Alarm Units and Systems, Fifth Edition
- **UL-2017**—General-Purpose Signaling Devices and Systems, First Edition

Underwriters Laboratories Canada

- **CAN/ULC-S527-99**—Standard for Control Units for Fire Alarm Systems, Second Edition
- **CAN/ULC-S559-04**—Equipment for Fire Signal Receiving Centres and Systems, First Edition

1.3.2 Installation

This product is intended to be installed in accordance with the following regulatory agencies.

Local

- **AHJ**—Authority Having Jurisdiction

National Fire Protection Association

- **NFPA 70**—National Electrical Code
- **NFPA 72**—National Fire Alarm Code
- **NFPA 101**—Life Safety Code

Underwriters Laboratories

- **UL-1076**—In certified applications, the unit shall be installed in accordance with Proprietary Burglar Alarm Units and Systems, Fifth Edition

Underwriters Laboratories Canada

- **C22.1–98**—Canadian Electrical Code, Part I (Twentieth Edition), Safety Standard for Electrical Installation
- **CAN/ULC-S524-06**—Standard for the installation of Fire Alarm Systems, Fifth Edition
- **CAN/ULC-S561-03**—Installation and Services for Fire Signal Receiving Centres and Systems, First Edition

WARNING: Installation
Improper installation, maintenance, and lack of routine testing could result in system malfunction.

1.4 Environmental Requirements

This product must be installed in the following environmental conditions:

- Temperature range of 0°C to 49°C (32°F - 120°F).
- 93% humidity non-condensing at 30°C (86°F).

1.5 Compatibility

NOTE: The JWS-3 requires that at least one node on the NFN network be an IFC-320/640/2-640/3030/2-3030 series panel. JWS-3 does not run on an NFN network with no IFC-320/640/2-640/3030/2-3030 series panels.

The JWS-3 acts like any other node on an NFN network (this includes high speed NFN networks). For information about direct panel connections supported, refer to Appendix A.1, “Direct Connect Node Type Compatibility”, on page 47

NOTE: The JWS-3 is not intended as a primary annunciator and is ancillary in nature. No NCM W/F PC board is required when the JWS-3 connects directly to a supported Johnson Controls panel when it is a standalone panel.

1.6 Upgrade Information

Firmware for systems running JWS-3 versions prior to 4.0 should not be upgraded unless there is an IFC-320/640/2-640/3030/2-3030 series panel on the system. JWS-3 does not operate on an NFN network with no IFC-320/640/2-640/3030/2-3030 series panels.

1.7 System Requirements

- Java™ version 6 or later
- Microsoft® Internet Explorer version 6.0 or later

NOTE: The JWS-3 application supports only Microsoft Internet Explorer®.

1.8 System Architecture

These are the connections options for the JWS-3 architecture:

- NFN network connection—A connection is made to an HS-NCM that is on the same high speed NFN network as the JWS-3, or to an NCM that is on the same NFN network as the JWS-3 (Figure 1.1).
- Direct panel connection—A connection is made directly to a supported Johnson Controls panel (Figure 1.2). Refer to Appendix A, "JWS-3 Compatible Node Types", on page 47 for supported panels.

An Internet or Intranet IP network connection is used with both architectures.

1.8.1 NFN Network Architecture

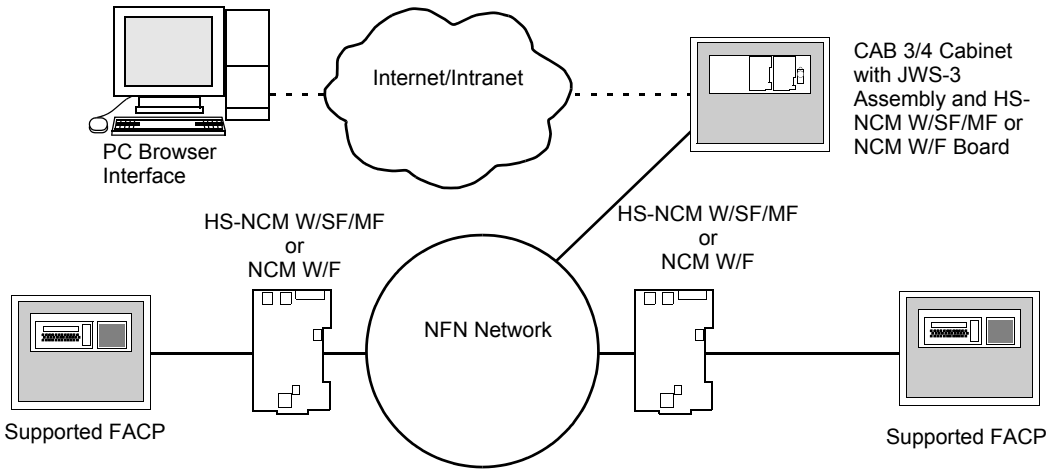


Figure 1.1 JWS-3 HS-NCM or NCM Architecture

1.8.2 Standalone Panel Architecture

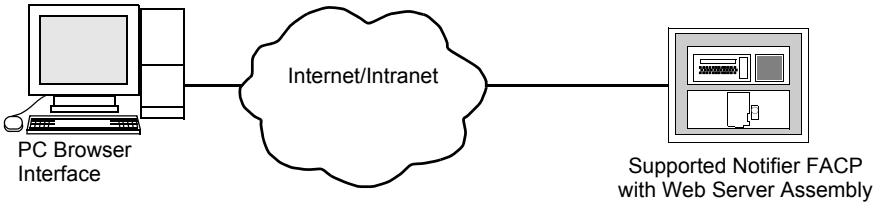


Figure 1.2 JWS-3 Direct Panel Architecture

Section 2 JWS-3 Embedded Installation

2.1 Required Equipment

The JWS-3 requires the following:

JWS-3 Assembly

The following are shipped with the JWS-3:

- JWS-3 printed circuit board
- PNET-1 surge suppressor (P/N PNET-1)
- RJ45 to RJ45 standard Ethernet network cable (P/N 75585—used to connect the JWS-3 board to PNET-1 surge suppressor
- NUP to NUP Cable—(P/N 75556) used to connect the JWS-3 board to an HS-NCM-W/SF/MF, an NCM-W/F, or an FACP
- Wire Leads to NUP Network Communications Module power cable (P/N 75583)

Network Components

- RJ45 to RJ45 standard Ethernet network cable—customer's internet or intranet connection to the JWS-3 board
- NFN network—version 5.0 or above (sold separately)
- High-Speed Network Communication Module: HS-NCM-W/SF/MF or Network Communication Module: NCM-W/F—used to facilitate network communication between the JWS-3 and NFN network (sold separately)

NOTE: No HS-NCM-W/SF/MF or NCM-W/F is required when the JWS-3 connects directly to a supported Johnson Controls panel when it is a standalone panel. Refer to Section A.1, "Direct Connect Node Type Compatibility" on page 47 for a list of supported panels.

Cabinet and Hardware (sold separately)

- CAB-3/CAB-4 series cabinet
- CHS-4L chassis

Customer Supplied Equipment

- A computer to monitor and configure the JWS-3

2.2 JWS-3 Installation Overview

This is the recommend installation order:

- "Installing a CAB3/CAB4 Cabinet" on page 15
- "Installing the JWS-3 Printed Circuit Board" on page 17.
- "Installing the Network Communication Module" on page 19 (if applicable).

2.2.1 JWS-3 PC Board Layout

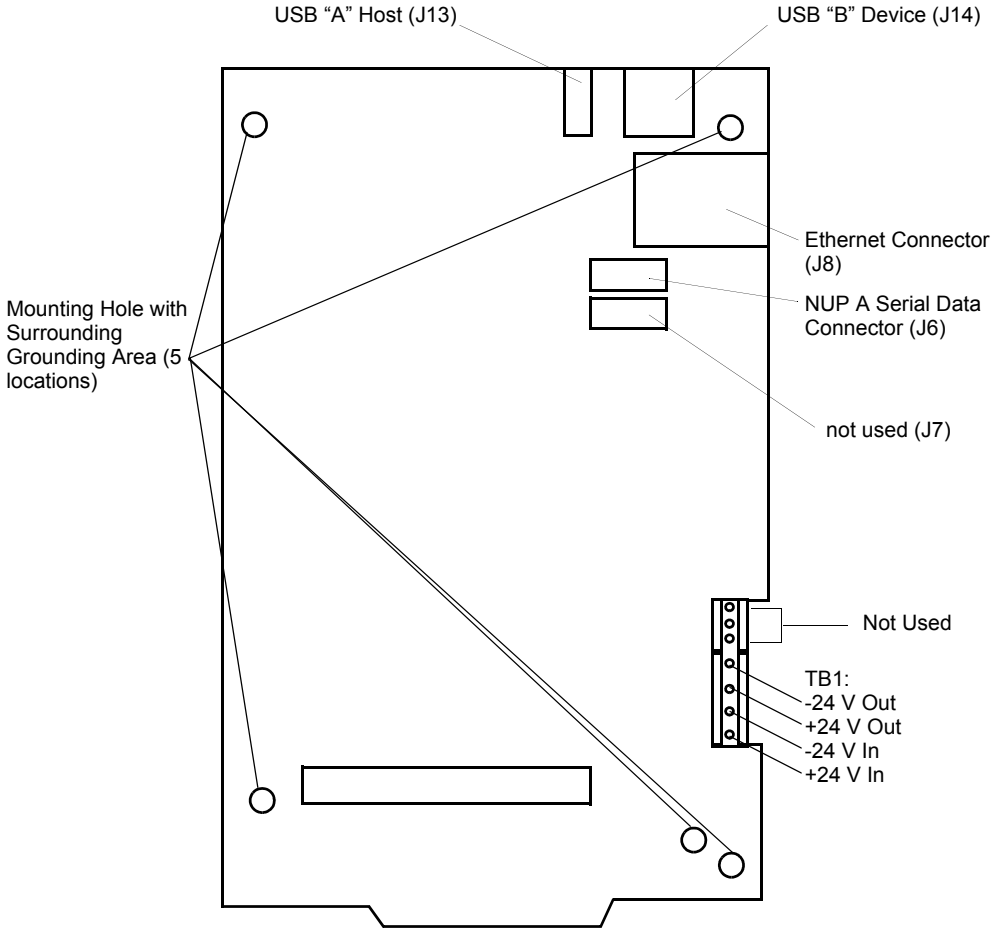


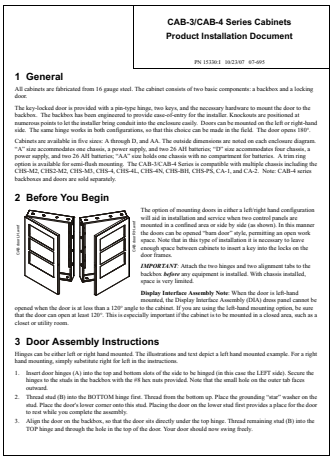
Figure 2.1 JWS-3 Printed Circuit Board

2.3 Installing a CAB3/CAB4 Cabinet

Install a new CAB-3/CAB-4 series cabinet according to the requirements of the local authority having jurisdiction or prepare an existing CAB-3/CAB-4 series cabinet that houses a supported Johnson Controls panel or annunciator. Refer to Appendix A, "JWS-3 Compatible Node Types", on page 47for list of supported panels and annunciators.

NOTE: The CAB3/CAB4 cabinet is ordered separately. For installation details, refer to the CAB-3/CAB-4 Series Installation Document, 15330 and or the panel's or annunciator's documentation.

NOTE: Knockouts are provided on the unit so that the field wiring may be run in conduit if required by the local authority having jurisdiction. All field wiring connections are intended to be made at the installation wiring terminals provided as part of the unit.



CAB-3/CAB-4 Series Cabinets
Product Installation Document

P/N 15330:1 10/23/07 07-695

1 General

All cabinets are fabricated from 16 gauge steel. The cabinet consists of two basic components: a backbox and a locking door.

The key-locked door is provided with a pin-type hinge, two keys, and the necessary hardware to mount the door to the backbox. The backbox has been engineered to provide ease-of-entry for the installer. Knockouts are positioned at numerous points to let the installer bring conduit into the enclosure easily. Doors can be mounted on the left or right-hand side. The same hinge works in both configurations, so that this choice can be made in the field. The door opens 180°.

Cabinets are available in five sizes: A through D, and AA. The outside dimensions are noted on each enclosure diagram. "A" size accommodates one chassis, a power supply, and two 26 AH batteries; "D" size accommodates four chassis, a power supply, and two 26 AH batteries; "AA" size holds one chassis with no compartment for batteries. A trim ring option is available for semi-flush mounting. The CAB-3/CAB-4 Series is compatible with multiple chassis including the CHS-M2, CHS2-M2, CHS-M3, CHS-4, CHS-4L, CHS-4N, CHS-BFI, CHS-PS, CA-1, and CA-2. Note: CAB-4 series backboxes and doors are sold separately.

2 Before You Begin

CAB_box1-2.wmf

The option of mounting doors in either a left/right hand configuration will aid in installation and service when two control panels are mounted in a confined area or side by side (as shown). In this manner the doors can be opened "barn door" style, permitting an open work space. Note that in this type of installation it is necessary to leave enough space between cabinets to insert a key into the locks on the door frames.

IMPORTANT: Attach the two hinges and two alignment tabs to the backbox *before* any equipment is installed. With chassis installed, space is very limited.

Display Interface Assembly Note: When the door is left-hand mounted, the Display Interface Assembly (DIA) dress panel cannot be opened when the door is at less than a 120° angle to the cabinet. If you are using the left-hand mounting option, be sure that the door can open at least 120°. This is especially important if the cabinet is to be mounted in a closed area, such as a closet or utility room.

3 Door Assembly Instructions

Hinges can be either left or right hand mounted. The illustrations and text depict a left hand mounted example. For a right hand mounting, simply substitute right for left in the instructions.

1. Insert door hinges (A) into the top and bottom slots of the side to be hinged (in this case the LEFT side). Secure the hinges to the studs in the backbox with the #8 hex nuts provided. Note that the small hole on the outer tab faces outward.
2. Thread stud (B) into the BOTTOM hinge first. Thread from the bottom up. Place the grounding "star" washer on the stud. Place the door's lower corner onto this stud. Placing the door on the lower stud first provides a place for the door to rest while you complete the assembly.
3. Align the door on the backbox, so that the door sits directly under the top hinge. Thread remaining stud (B) into the TOP hinge and through the hole in the top of the door. Your door should now swing freely.

Figure 2.2 CAB-3/CAB-4 Series Installation Document, 15330

2.4 Installing a CHS-4L Chassis

A chassis holds the gateway within a CAB-3/CAB-4 series cabinet. A CHS-4L chassis fits into any CAB-3/CAB-4 series cabinet row except for the bottom row, which provides battery housing and does not have PEM studs for mounting. Follow these instructions to install a CHS-4L chassis in a CAB-3/CAB-4 series cabinet.

Step 1. Position the chassis so the PEM cabinet studs are aligned with the chassis mounting holes, and mount the chassis onto the cabinet.

Step 2. Secure the chassis to the PEM studs with the two hex nuts (PN 36047) provided with the chassis.

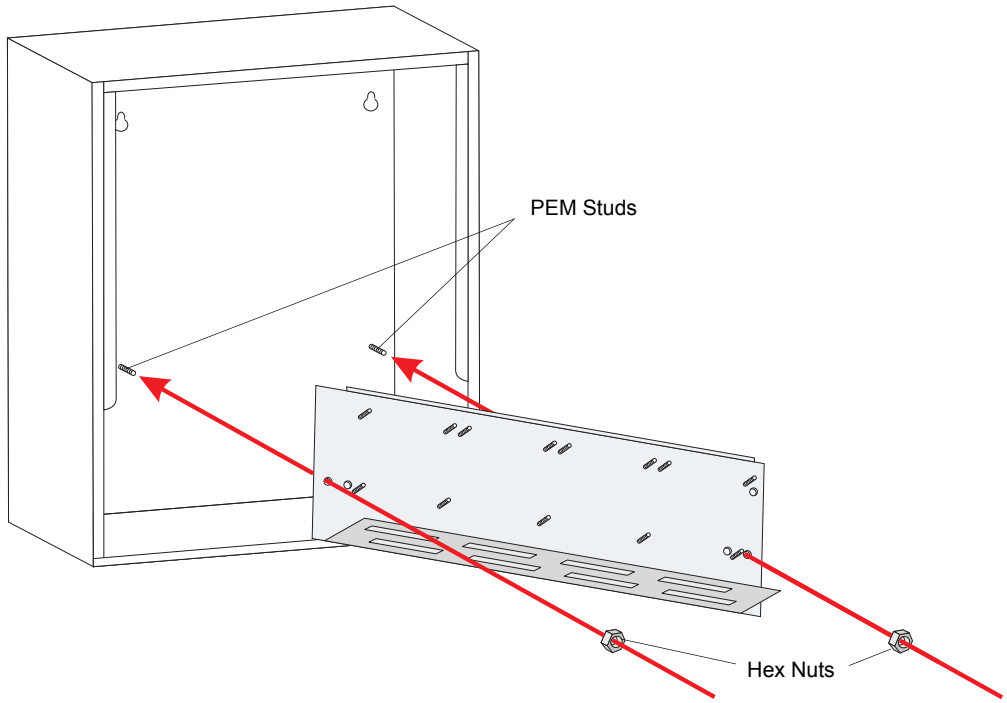


Figure 2.3 Installing a CHS-4LChassis

2.5 Installing the JWS-3 Printed Circuit Board

Install the JWS-3 printed circuit board onto the mounting studs on the CHS-4L chassis, making sure to use only the mounting holes bordered by grounding area.

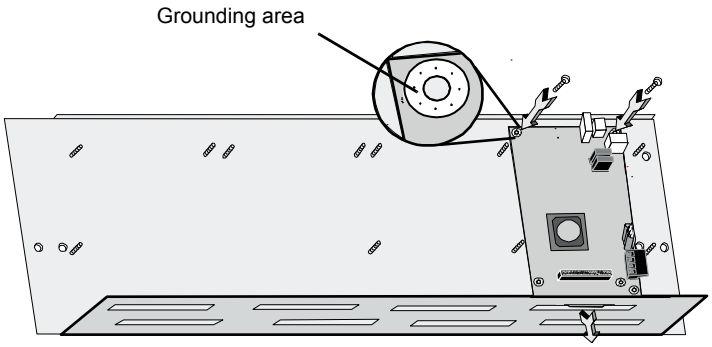


Figure 2.4 Install JWS-3 Printed Circuit Board onto Chassis

NOTE: There must be enough clearance on the right side of the printed circuit board to allow an Ethernet cable to be connected to the Ethernet port.

2.5.1 JWS-3 Power Supply Connection

The JWS-3 requires +24VDC @450mA nominal and supervised battery backup in accordance with local code requirements. Outside Canada, the JWS-3 can be powered by any regulated, UL 1481 listed, power limited, battery backed, +24 VDC power supply. For Canadian installation, The JWS-3 must be powered by a ULC listed Fire Alarm Control Unit or a ULC listed power supply for fire application. Conform to UL or ULC standards as applicable in your area.

Table 2.1 Power Supply Specifications

	NOMINAL
Input Voltage	+24VDC
Input Current @ +24VDC	450 mA without NCM or HS-NCM

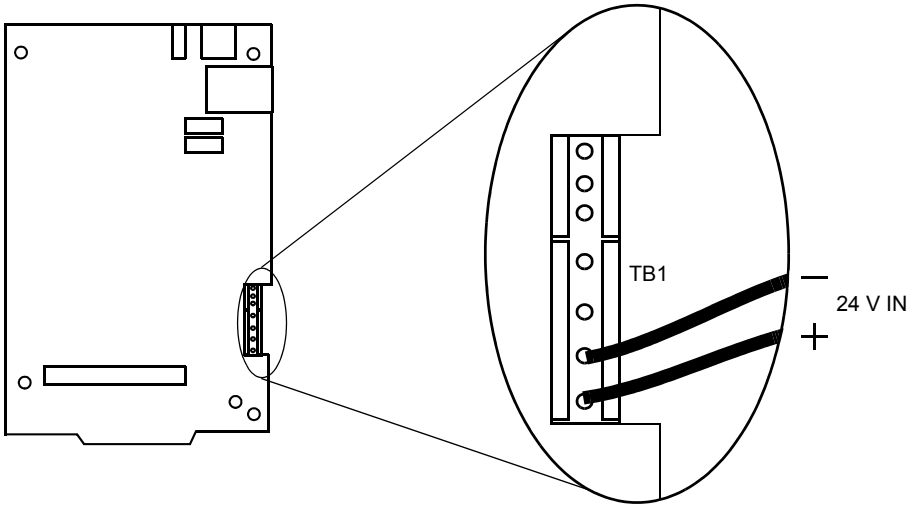


Figure 2.5 JWS-3 Power Connection

NOTE: All wiring from the power supply is power limited, and a separation of at least ¼" (6.35 mm) must be maintained between power limited and non-power limited wiring.

CAUTION: Power Sources
Different sources of power are used in conjunction with the JWS-3 product. Disconnect all sources of power before servicing. This device and associated equipment may be damaged by removing and/or inserting cards, modules or interconnecting cables while this unit is powered. This damage may adversely affect the operation of this unit, but its effect may not be readily apparent.

For specific information about power configurations involving fire alarm control panels and network communications modules, refer to *Embedded Gateway Power Connections*, PN 53612.

2.5.2 Wiring Restrictions

NOTE: All wiring connections are supervised and power limited.

NOTE: USB and NUP wiring connections to the HS-NCM must be located within 20 feet and encased in conduit within the same room.

NOTE: In Canada, if the gateway is installed in a separate cabinet, the cabinet must be connected to the Fire Alarm Control Panel (FACP) with a close nipple fitting.

RS232 (NUP)

- Line Impedance 5k ohm
- Max Distance 50 feet

Ethernet

- Line Impedance 100 ohm
- Max Distance 100 meters

USB

- Line Impedance 90 ohm ±15%
- Max Distance 40 meters

2.5.3 Installing the Network Communication Module

Install the type of network communication module you will use (whether high speed or not, wire or fibre) onto the chassis in the new CAB3/CAB4 cabinet or an existing panel's or annunciator's cabinet.

Table 2.2 Network Communication Module Details

HIGH SPEED NFN NETWORKS—USE HS-NCM ONLY	NFN NETWORKS—USE NCM ONLY
Use the High SpeedNetwork Control Module configuration that fits your installation needs. • HS-NCM-W with twisted pair wire • HS-NCM-SF with single mode fiber-optic cable • HS-NCM-MF with multimode fiber-optic cable	Use the Network Control Module configuration that fits your installation needs. • NCM-W with twisted pair wire • NCM-F with fiber-optic cable

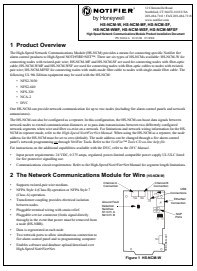
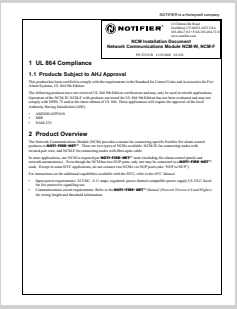

	

Figure 2.6 HS-NCM Installation Document PN 54014	**Figure 2.7 NCM Installation Document PN 51533**

BE SURE TO INSTALL THE CORRECT SPEED NETWORK CONTROL MODULE, BASED ON WHETHER YOU HAVE A HIGH SPEED NFN ***NETWORK*** OR NOT.

2.6 Connecting an JWS-3 to an IP Network

This allows the JWS-3 to communicate through your IP network (Internet or Intranet)

Step 1. Plug the PNET-1 surge suppressor into the JWS-3 Ethernet connector.

Step 2. Plug the RJ45 cable into the PNET-1.

Step 3. Plug the RJ45 cable into your IP network.

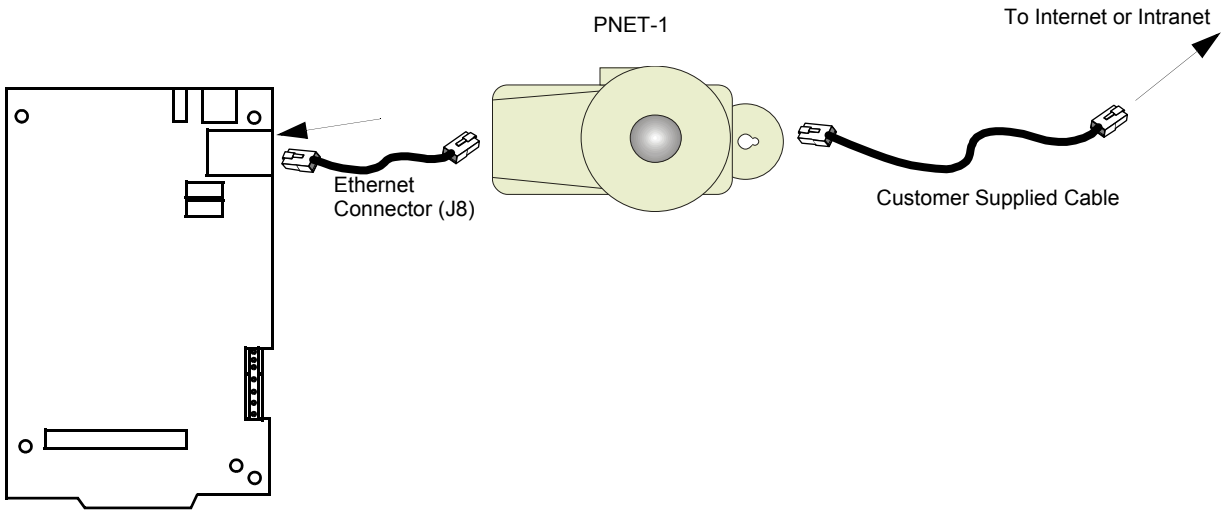


Figure 2.8 IP Cable Connection

NOTE: The Ethernet wire must be connected to through the PNET-1 surge suppressor.

NOTE: The Ethernet port is power limited.

■ Find Your Fire System Connection Option

Once the JWS-3 is connected to the IP network, connect it to either a fire alarm control panel or an appropriate network control module. Refer to Table 2.3, "JWS-3 to Fire System Connection Options" for details.

NOTE: Make only one of these connections.

Table 2.3 JWS-3 to Fire System Connection Options

When Connecting...	Refer to
...to a high speed NFN network consisting exclusively of High Speed compatible panels	Section 2.7, “Connecting an JWS-3 to a High Speed Network Control Module” on page 21
...to an NFN network	Section 2.8, “Connecting an JWS-3 to a Network Control Module” on page 22
directly to a fire alarm control panel to be accessed through the JWS-3	Section 2.9, “Connecting an JWS-3 Directly to a Fire Alarm Control Panel” on page 23

2.7 Connecting an JWS-3 to a High Speed Network Control Module

- Use an HS-NCM-W for a twisted pair wire connection.
- Use an HS-NCM-SF for a single mode fiber-optic cable connection.
- Use an HS-NCM-MF for a multimode fiber-optic cable connection.

Connecting the JWS-3 to an HS-NCM-W/SF/MF allows the gateway to communicate with devices on a high speed NFN network. Connect an JWS-3 to a High Speed Network Control Module using either of these methods:

■ USB to USB Cable Connection

Connect USB A on the JWS-3 to USB B on the HS-NCM-W/SF/MF, or connect USB B on the JWS-3 to USB A on the HS-NCM-W/SF/MF.

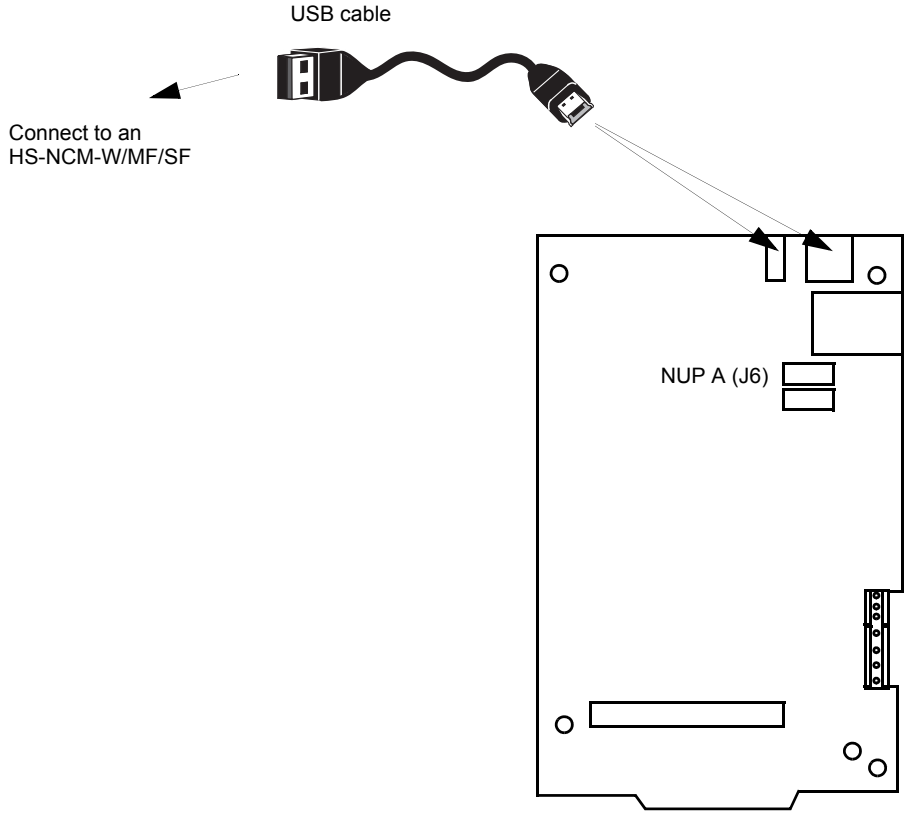


Figure 2.9 USB Connection

■ NUP to NUP Cable Connection

Connect the cable between to the JWS-3 circuit board's NUP connector and an HS-NCM-W/SF/MF NUP connector.

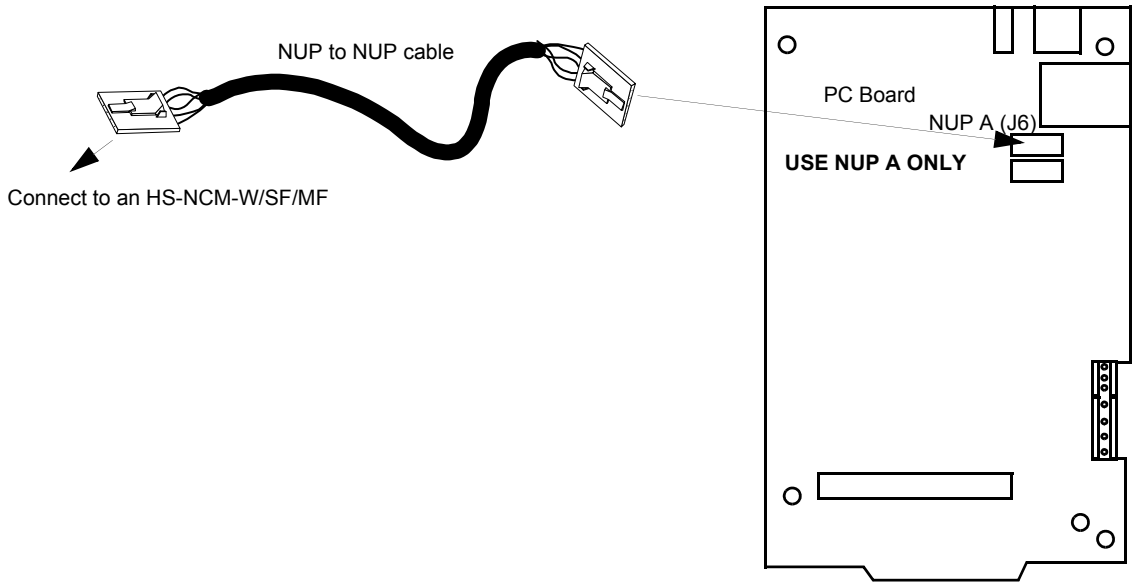


Figure 2.10 NUP to NUP Connection

2.8 Connecting an JWS-3 to a Network Control Module

- Use an NCM-W for a twisted pair wire connection.
- Use an NCM-F for a fiber-optic cable connection.

■ NUP to NUP Cable Connection

Connecting the JWS-3 to an NCM-W/F allows the gateway to communicate with devices on an NFN network.

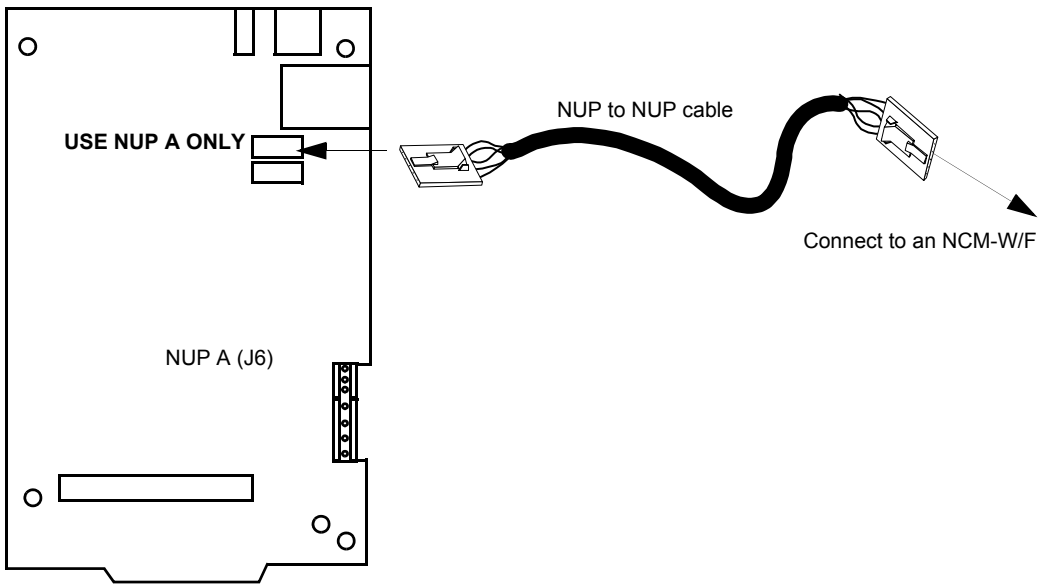


Figure 2.11 NUP to NUP Connection

2.9 Connecting an JWS-3 Directly to a Fire Alarm Control Panel

■ NUP to NUP Cable Connection

Refer to Appendix A.1, “Direct Connect Node Type Compatibility”, on page 47 for a list of compatible panels.

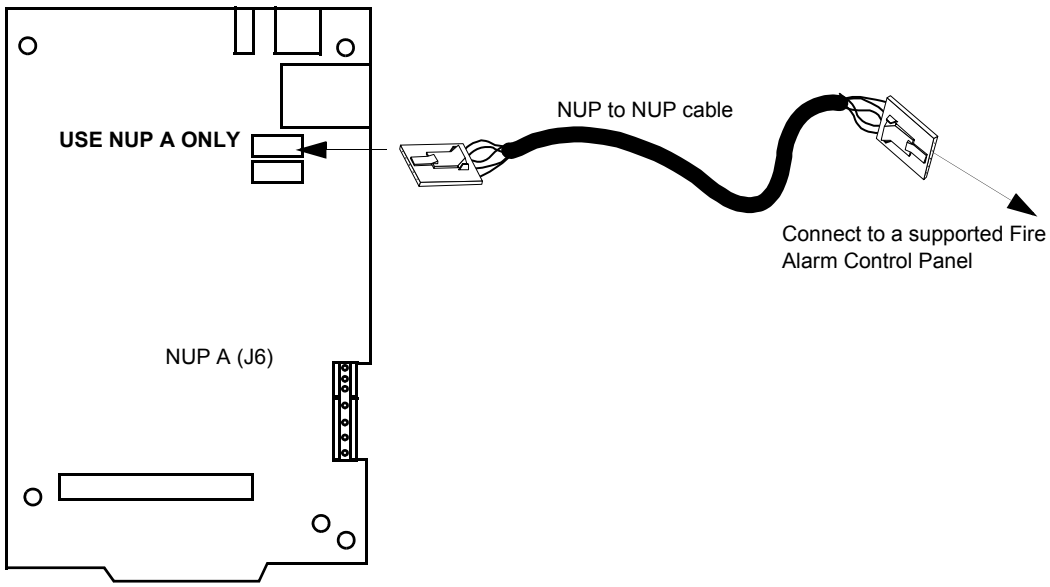


Figure 2.12 NUP to NUP Connection

Section 3 JWS-3 Configuration

3.1 Configuration PC Preparation

CAUTION: Multiple JWS-3 Installations
JWS-3s should be installed and configured one at a time because all JWS-3 use the same default IP address and node number.

NOTE: You must have completed the installation of the JWS-3 before you proceed with this preparation (refer to "JWS-3 Embedded Installation" on page 13).

3.1.1 Connect the Configuration PC to the JWS-3

If your Configuration PC is on the same IP network you connected the JWS-3 to in the step, "Connecting an JWS-3 to an IP Network" on page 20, then your Configuration PC is already connected to the JWS-3. Proceed to "IP Network Configuration" on page 25.

Otherwise, refer to Appendix B.1, "Direct Connection to the Gateway PC Board", on page 49.

3.2 IP Network Configuration

Step 1. Once JWS-3 is powered and physically connected to the network, open a browser from a PC on the same network, and browse to the default address:

192.168.1.2

This launches the JWS-3 interface.

Step 2. Log into JWS-3. Refer to "Browser Security Settings" on page 27 and "JWS-3 Security" on page 27.

Step 3. From the JWS-3, click the **Administration** tab, and then choose **System Settings** from the list on the left.

a. Type in the IP address into the "IP address" field.
- A JWS-3 user will type this IP address into their browser to connect to the JWS-3.
- If the JWS-3 is to be used on the internet, you may need to independently set up a router and/or fire-wall so the internet-based applications can locate and access the JWS-3. Contact your appropriate MIS personnel for details.

b. Enter the Subnet Mask into the "Subnet Mask" field.
- This is the IP subnet mask the JWS-3 should use to determine whether a connection came from a local network or should be routed on to another network.
- All of the IP settings for the JWS-3 must be on the same subnet for communications to be established between the JWS-3 and a browser.

c. Type in the values into the "IP address for routing back to Internet" field.
- This sets the IP of a router that the JWS-3 can use to locate the browser with which it is communicating.
- This sets a path for the JWS-3 to use to communicate back to the connecting browser.

d. If applicable to your application, select an NCM Threshold and Network Styles.
- The NCM threshold can be set to high or low.
- The network style can be set to style 4 or style 7.
- Refer to the NCM documentation for more details on these fields.

Step 4. Refer to for information about configuring additional settings.

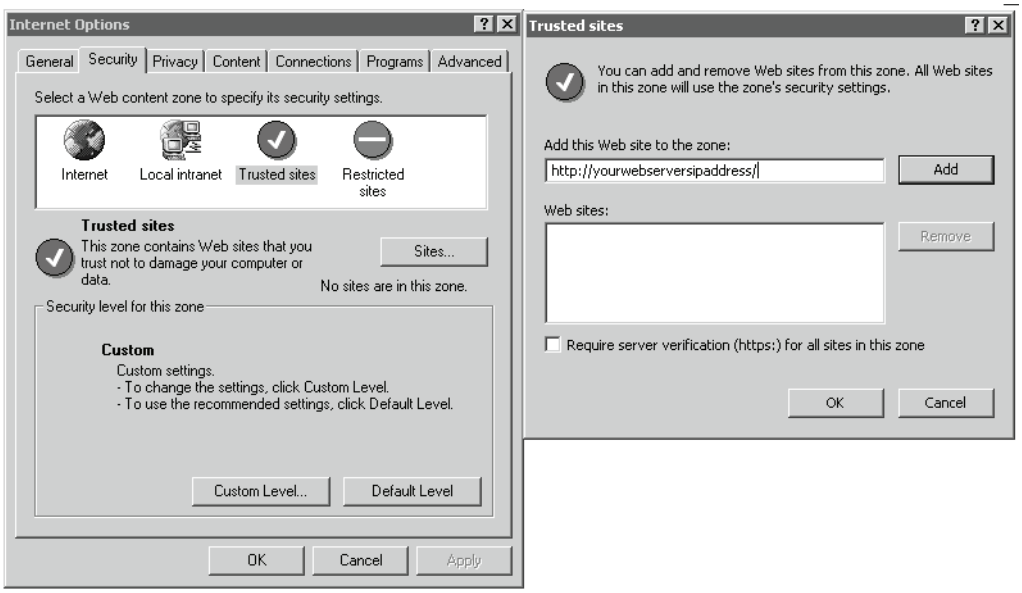
Step 5. The configuration of JWS-3 is complete and it should be operational. Refer to "JWS-3 Operation" on page 27 for details.

Section 4 JWS-3 Operation

4.1 Browser Security Settings

These Microsoft® Internet Explorer® settings for trusted sites MUST be made before you use the JWS-3.

- Enter your Web Server's IP address (if you did not change the initial IP address in , enter the default IP address: **192.168.1.2**).
- Un-check the "Require server verification (https:) for all sites in this zone" selection.



NOTE: If you started the JWS-3 before making the Trusted Sites settings shown above, please shut down your browser and make the Internet Options settings from Control Panel.

4.2 JWS-3 Security

There are factory set User Name and Password entries. The system administrator should modify these User Name and Password as soon as possible to provide the system with security. The password must be 8 characters. The default User Name and Password are:

User Name	Password
admin	00000000

When the JWS-3 is started, a log in must be performed. Functions assigned by the system administrator determine what access the user will have.

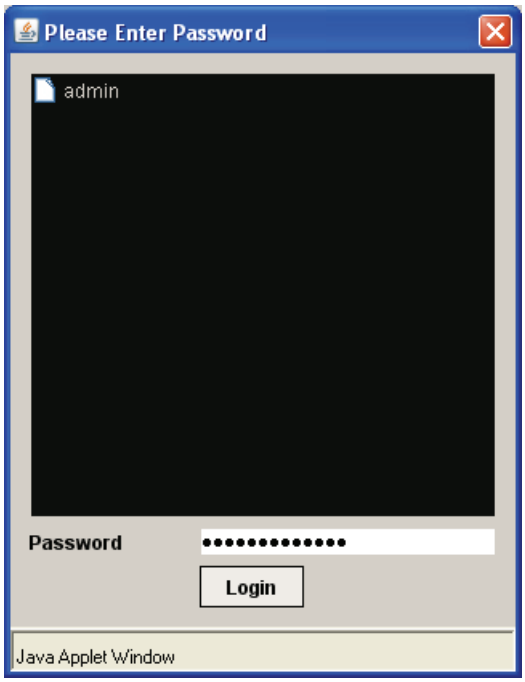


Figure 4.1 JWS-3 Login Dialog

NOTE: Passwords are case sensitive.

4.3 The JWS-3 Interface

Browser

The JWS-3 interface is an html page type format that displays information about all points present and active on a ONYXWorks™ network. The recommended internet browser is Microsoft Internet Explorer. For details on using Microsoft Internet Explorer, consult Microsoft's documentation or help file.

Output Buttons

Many of the JWS-3 interface screens include output buttons to allow exporting or printing. The output buttons perform these functions:

Export To Text—Opens a browser pop-up window which contains the information on the current JWS-3 screen in plain text format.

Export To HTML—Opens a browser pop-up window which contains the information on the current JWS-3 screen in HTML format.

Print—Opens the Print dialogue from the browser File menu. This lets you print the information on the current JWS-3 screen to a configured printer.

Tabs

Four tabs in the upper left area of the interface provide access to the JWS-3's different features. The following pages describe the features available under each tab.

4.4 Events Tab

When JWS-3 first launches, the events tab is shown.

The events tab shows two sets of events:

- New Events
- Acknowledged Events.

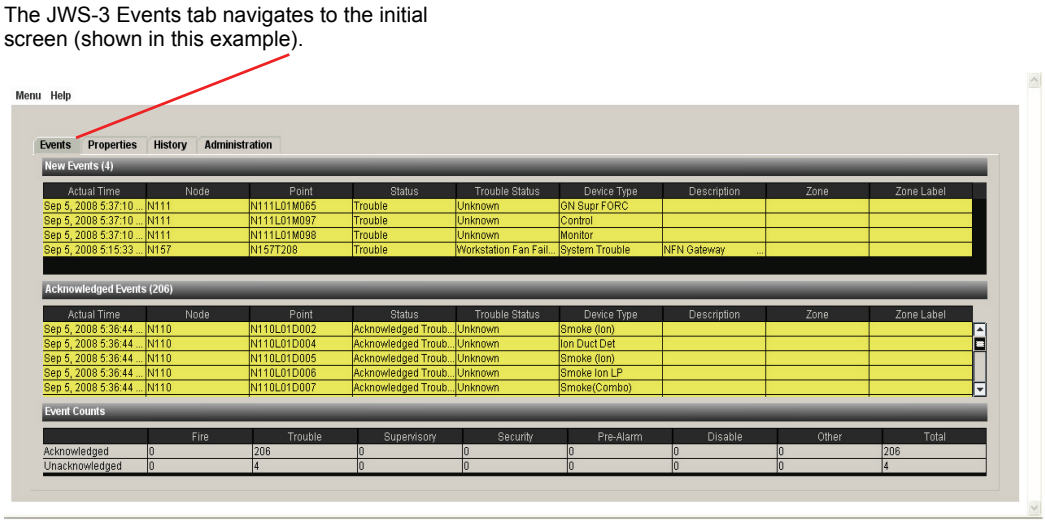


Figure 4.2 JWS-3 Events Tab

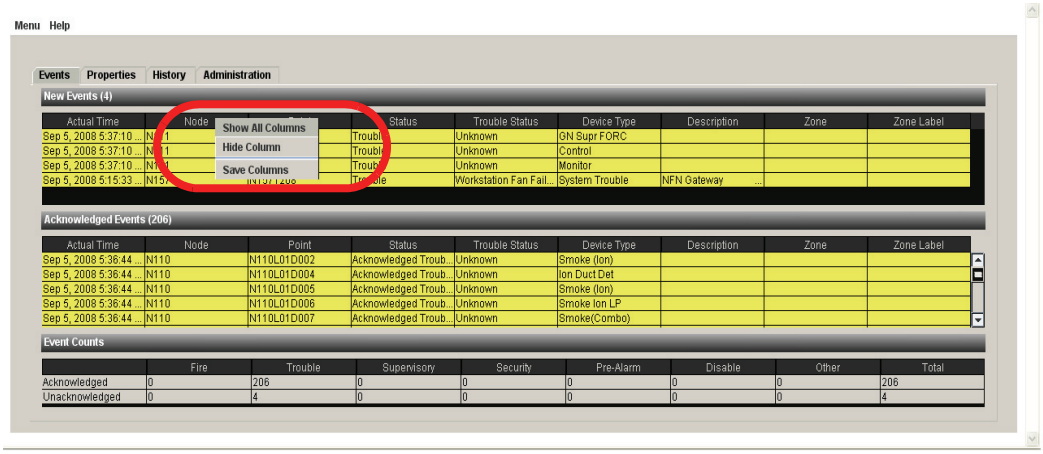
Event Information

The Events Tab can display nine pieces of information about each new or acknowledged event:

- Actual Time
- Node
- Point
- Status
- Trouble Status
- Device Type
- Description
- Zone
- Zone Label

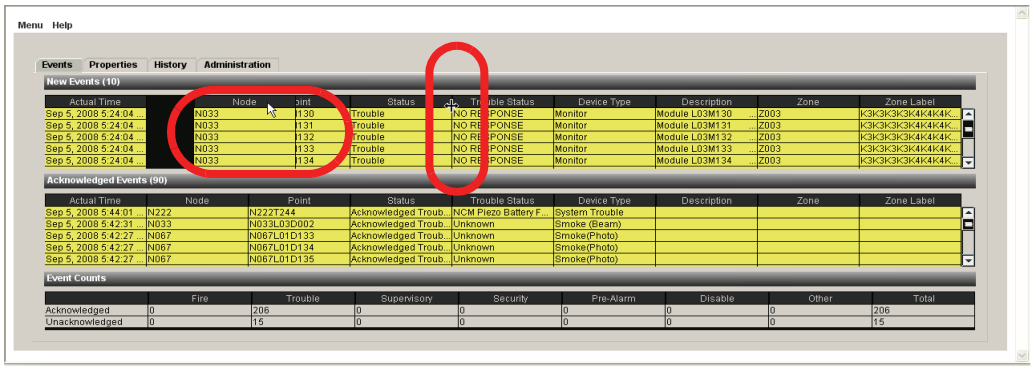
■ Show/Hide Columns

Right-clicking the heading of any column of information brings up options that let you customize the view.



■ Resize And Reposition Columns

Click and drag a column, and then drop it in a new location to reposition it. Move the pointer over the border between two columns until a resize tool appears (✢). Then, click the column border, drag it to make the column wider or narrower, and release it.



You can show, hide, resize and reposition columns to more easily view the data you need most.

Events Summary

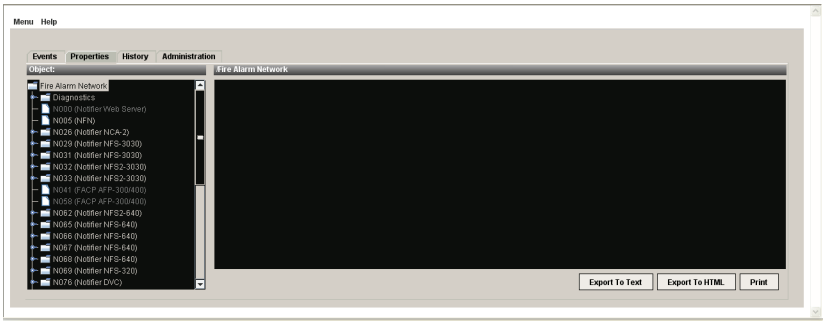
At the bottom of the Events Tab, JWS-3 displays a summary of all events received:

Figure 4.3 Events Summary

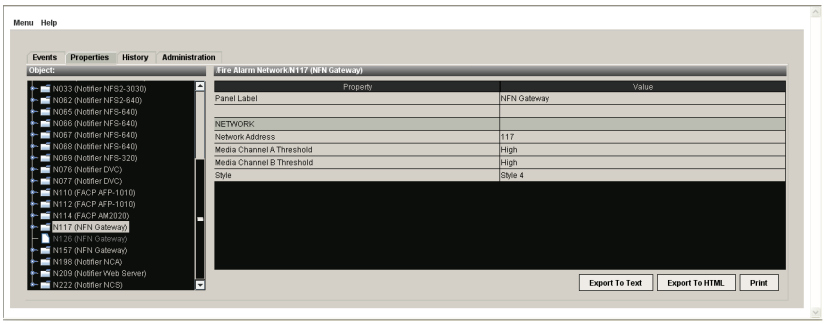
4.5 Properties Tab

Panel And Device Properties

In the Properties Tab, panels and devices on the network are represented by hyperlinks on the left side of the properties display area. These screens are for viewing panel/network device status and property settings. Click an object in the left panel to display values of its key properties in the right panel. In addition to fire alarm control panels, the Web Browser also allows you to view network devices such as network devices such as the Intelligent Fire Workstation (IFW), Network Control Annunciator (JNCA) and the JNFN Gateway.



Click a device listed in the object panel to display details about that device in the property/value panel.



NOTE: Reference the pertinent control panel user manual for property details.

Click the browser **Refresh** button to view device properties updated in real time.

Diagnostic Information

Diagnostic information can also be viewed from the properties tab. Expand the **Diagnostics** folder to access this information. Statistics are available for NUP ports and for the network at large.

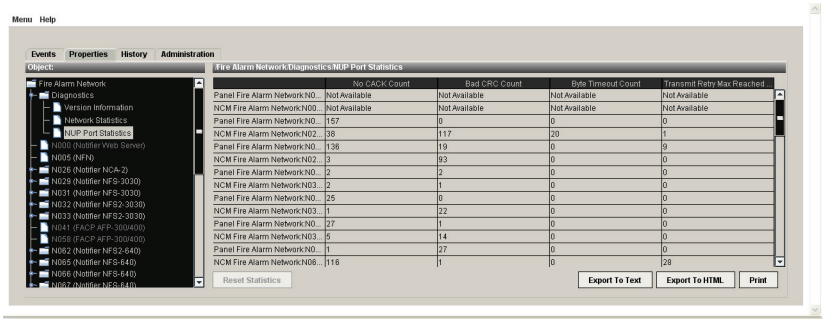


Figure 4.4 NUP Port Statistics

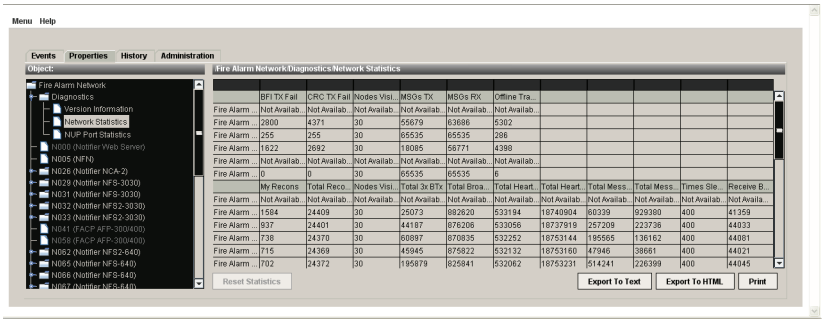


Figure 4.5 Network Statistics

NOTE: Only IFC/IFC2-3030, IFC/IFC2-640, IFC-320, JNCA, JNCA-2 will have Network Statistics information displayed.

Information is also available about the version levels of panels and their components.

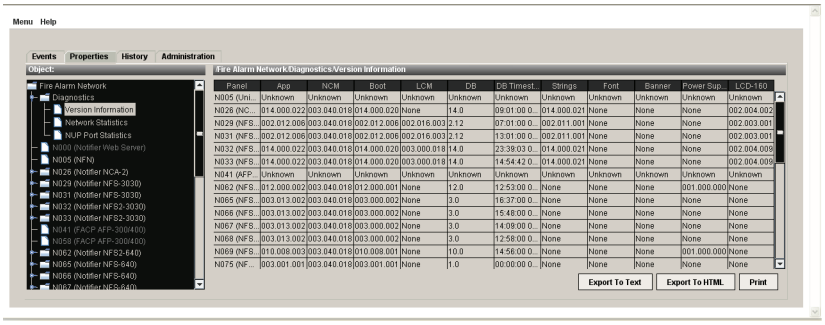


Figure 4.6 Version Information

4.6 History Tab

Panel History

The History Tab shows a history of the panels on the fire alarm network. For each panel, up to 1000 of the most recent items are available. Clicking the History folder under a panel name on the left side of the display shows how many general history and alarm events are available for that panel.

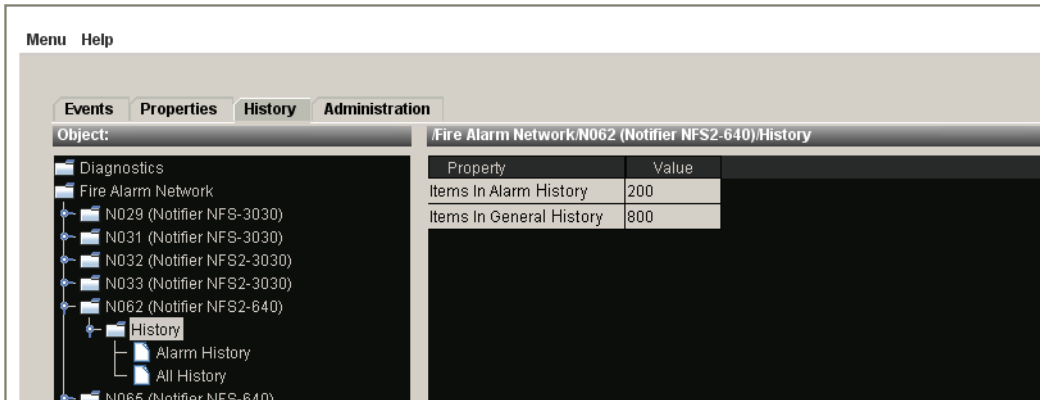


Figure 4.7 History Events Available

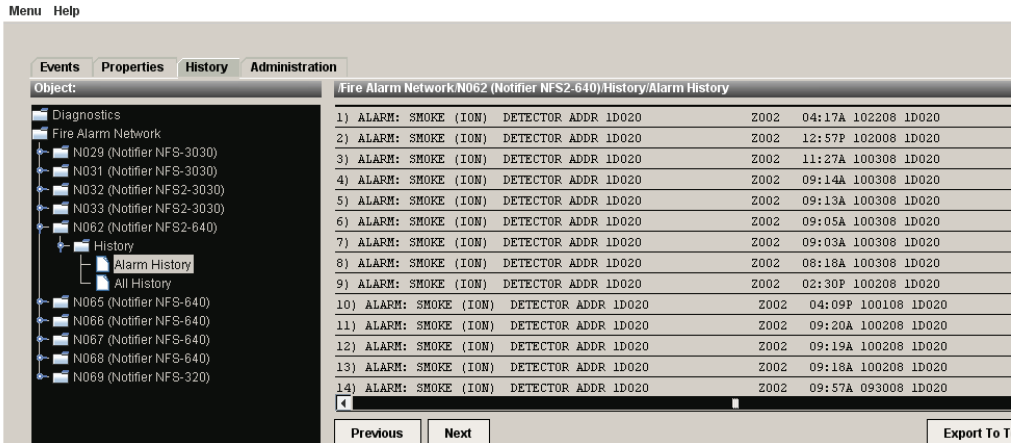


Figure 4.8 Alarm History

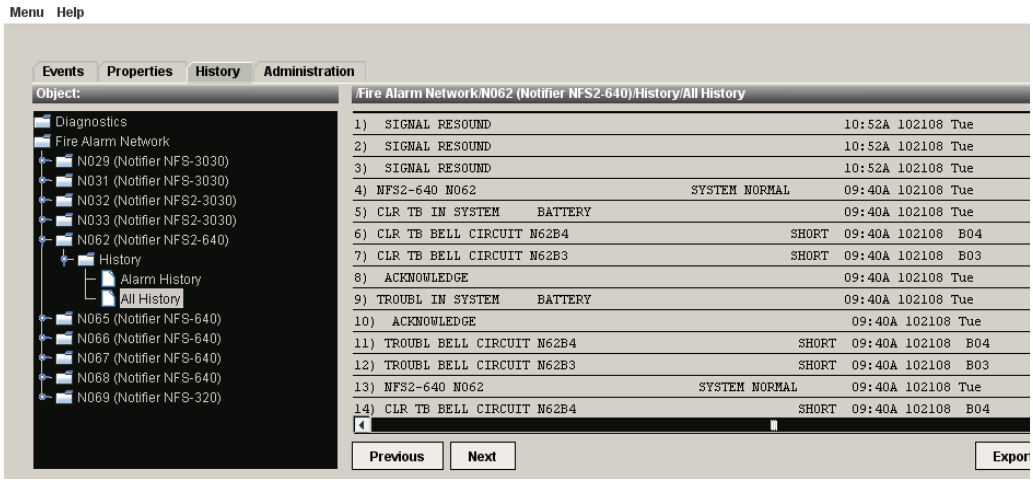


Figure 4.9 All History

Diagnostic Information

Diagnostic information can also be displayed from the history tab. Under the diagnostic folder, click the appropriate heading to display the following information:

- Authorization Log—a record of each time a user logged on or off the JWS-3, or attempted to
- E-mail Log—a record of E-mail notification messages sent by the JWS-3. Refer to
- General Log—a general record of information processed by the JWS-3 including internal operations
- HTTP Log—a record of hypertext traffic the JWS-3 has handled

Up to 1000 of the most recent items of each type are shown.

4.7 Administration Tab

The Administration tab selections configure various JWS-3 settings. Administrators can decide whether to allow all users, or only administrative users, to change settings.

4.7.1 E-mail Notification

NOTE: JWS-3 does not support e-mail servers that require e-mail authentication. Make sure your e-mail server is not set to require e-mail authentication.

Summary

The e-mail notification feature enables the administrator to configure the JWS-3 to automatically send event information via e-mail to a select group of users. E-mail recipients receive events according to the profiles they have been assigned. The JWS-3 can support a maximum of ten profiles, and an e-mail recipient can be assigned to all ten profiles. Each of the ten profiles support a maximum of five e-mail addresses.E-mail notification also provides the capability to send e-mail directly from the JWS-3 in real time.

■ E-Mail Notification Features

The following lists some of the benefits that the e-mail notification feature provides:

- Ten Profiles
- Send up to 50 e-mails in response to any system event.
- Quickly Enable and Disable e-mail feature.
- Create your own custom messages that will be included with the e-mailed system event.
- Easily send e-mail “live” to any configured e-mail recipient.

E-Mail Configuration

You will need the following information from your Internet Service Provider (ISP) or Local Area Network (LAN) administrator. The JWS-3 does not provide authentication information.

Outgoing Mail IP Address (SMTP) This is the mail server’s IP address. The JWS-3 does not support DNS; therefore, you will need the address in dotted decimal form (XXX.XXX.XXX.XXX).

From Address (optional) Enter an e-mail address if you want responses to be sent to if you set up an E-Mail Profile and select Send Test Message. Also this is entry may not be an optional for cell phone service provider systems that support e-mail.

Mail User This is an SMTP server setting. Leave this field blank unless your network administrator indicates otherwise.

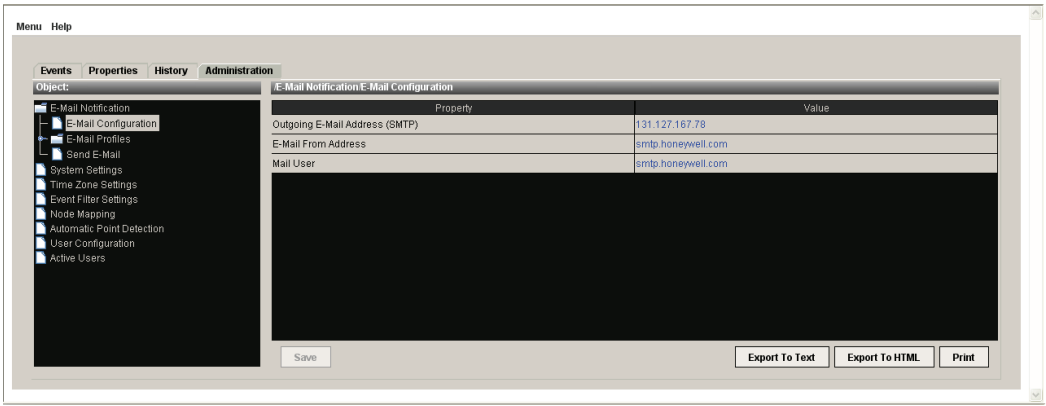


Figure 4.10 E-mail Configuration

E-mail Profiles

Profiles define the e-mail addresses of the recipients assigned that profile, along with the nodes and event types that will initiate an e-mail message. Profiles filter e-mail notification by event type. The six event types are Fire Alarm, Pre-Alarm, Security, Supervisory, Trouble, and Other.

■ To Setup E-mail Profiles

1. Click the **Administration** tab.
2. Click the **E-Mail Notification** folder.
3. Click the **E-mail Profiles** subfolder to expand the selection to display the ten profiles.
4. Click the profile to define.
5. Enter the e-mail addresses to be included in the profile for notification.
6. Choose the node (panel type) to be included for e-mail notification.
7. Choose the event types to be included for e-mail notification. Note that these are set on a per-node basis.
8. Design custom messages.
9. After making all settings for the profile, click **Save** to save the e-mail profile.
10. To verify your e-mail profile setup; click **Test** to send the following message to recipients for this profile.

NOTE: This is an automatically generated test message; its content cannot be edited.

The Fire Alarm Web Server at site "NFN Web Server" generated this message in response to an operator test of e-mail profile #1.

Your e-mail address has been listed in the web server to be notified in the case of an event of the type listed above.

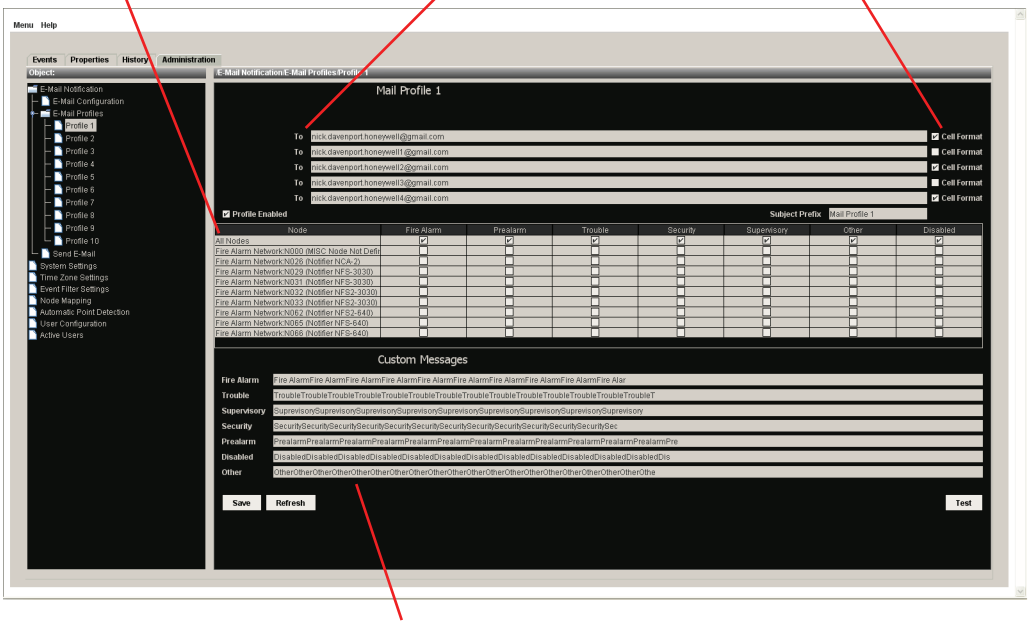
Please contact your system administrator if you have been inadvertently notified.

Profile Enabled E-mails are sent for a profile only when the Profile Enabled box for that profile is checked (☑ Profile Enabled). Remove the check mark from this box to prevent e-mails from being sent. Profiles are enabled by default.

In the profile node table, check the boxes in the event columns for events that should be announced when they occur in the corresponding nodes. Checking **All Nodes** for a given event sends e-mail whenever that event type occurs on any node.

Each profile can specify up to five e-mail recipients.

Checking **Cell Format** for an address formats e-mail sent to that address for a cell phone.



Design custom messages according to event type. Custom messages have a 50-character maximum.

Figure 4.11 E-mail Profile Configuration

The general appearance of an e-mail notification message, once received, varies depending on the e-mail application used, individual PC font settings, and other factors. A sample message, however, can be seen in the following figure.

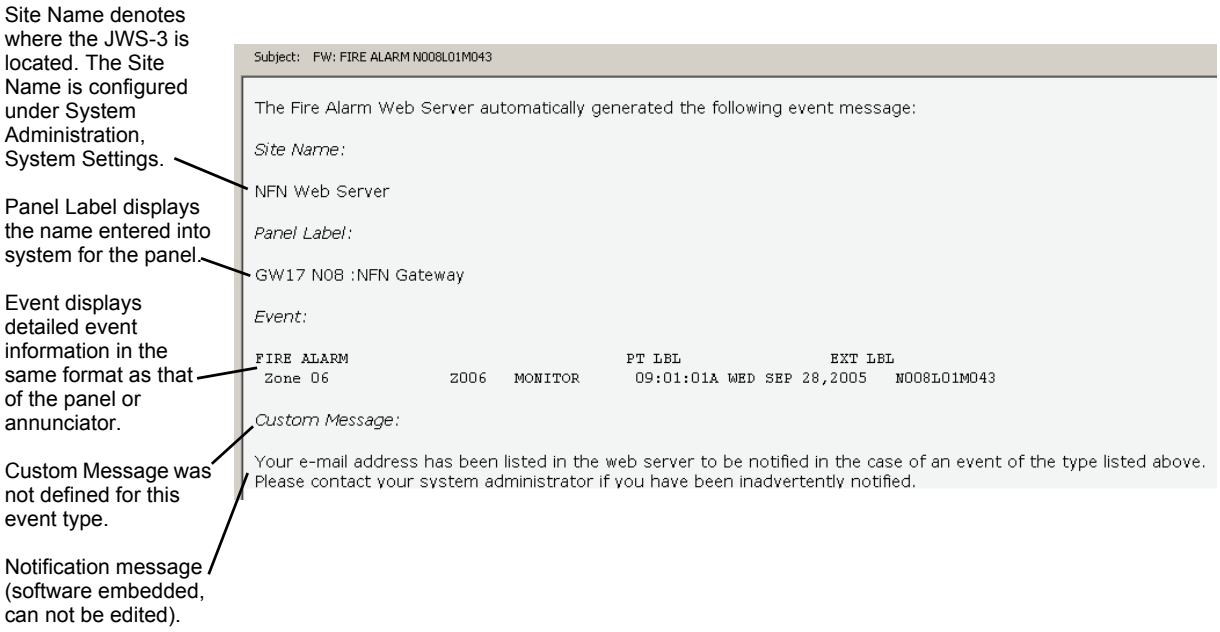


Figure 4.12 Sample E-mail Message

Send E-Mail

Use the send e-mail page to write and send an e-mail message from JWS-3 in real time.

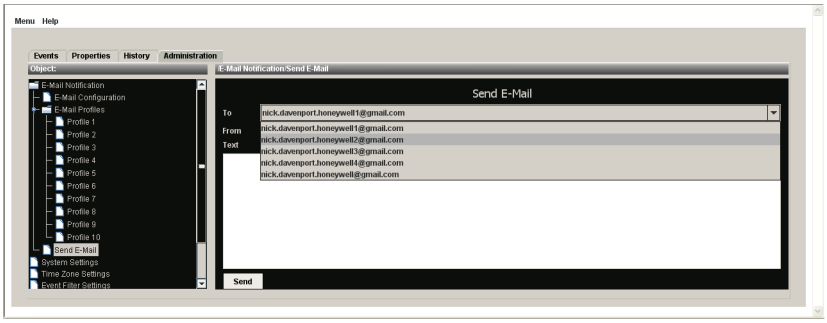


Figure 4.13 Send Message

To send an e-mail message:

Step 1. Type the recipient's address in the **To:** field, or use the drop menu to select from addresses configured in profiles. (For more information, see "E-mail Profiles" on page 35).

Step 2. Type a return address in the **From:** field.

Step 3. Type a text message in the space provided.

Step 4. Click **Send**.

4.7.2 System Settings

Selecting System Settings allows you to make JWS-3 browser configuration settings.

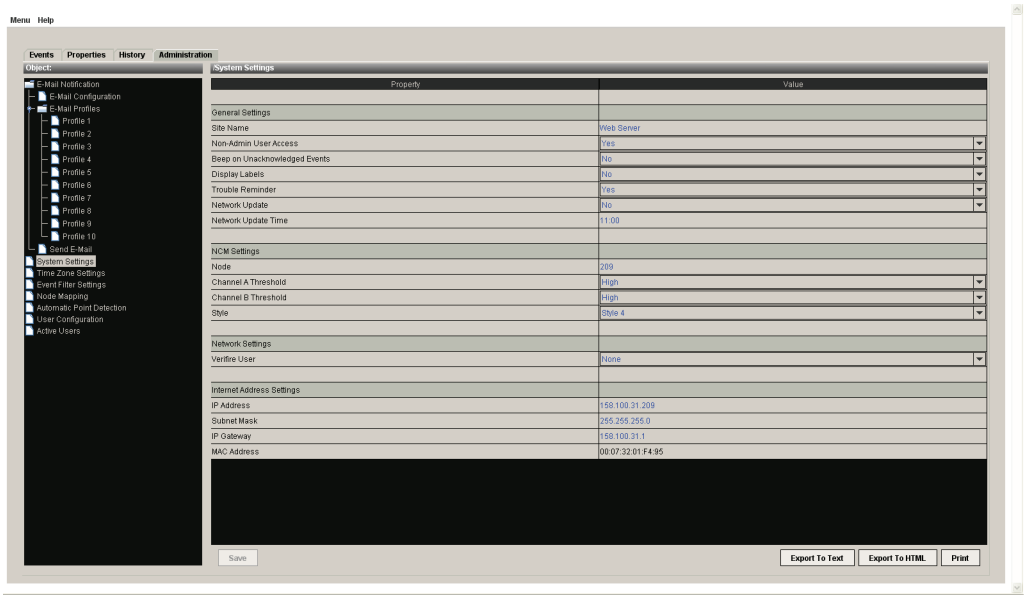


Figure 4.14 System Settings

General Settings

Site Name This is a user defined field designed to facilitate a unique descriptive name for the JWS-3.

Non-Admin User Access This setting defines whether or not operators will have access to the JWS-3.

Beep on Unacknowledged Events Choose this option to enable an audible reminder of unacknowledged events. When this is set to **Yes**, the JWS-3 will beep at 3-second intervals and will continue until no unacknowledged events are shown in the Multiple Events List.

Display Labels This option determines whether on not label names appear in the

Trouble Reminder If there is an active trouble on the network, every 24 hours at 11:00 AM, a trouble reminder message will be generated across the network.

Network Update Select **Yes** to have the JWS-3 auto detect points daily.

Network Update Time If the JWS-3 is configured to auto detect points daily, this field is used to select the time you want the JWS-3 to perform this action.

NCM Settings

Node The node where the NCM is located on the NFN network.

Channel A/B Threshold Threshold settings are used according to the amount of network noise present; changing the threshold settings will initialize the NCM board itself.

Style Select style 4 or style 7.

Network Settings

Verifire User Select **Yes** to allow access to JWS-3 from VeriFire Tools through an IP connection.

Internet Address Settings

IP Address This is the actual IP address where the JWS-3 will be located. Type the address by double clicking on the data field to the right of the description field. The user will type this address into a browser in order to establish a connection with the JWS-3. If the JWS-3 is to be used on the internet, you may need to independently set up a router and/or fire-wall so the internet-based applications can locate and access the JWS-3. Contact your MIS department for details. To actually connect to the JWS-3 requires use of TCP/IP port 8888; for example, if the JWS-3 is located at 10.4.2.1, one would type the following into the browser window to connect to the JWS-3.

Subnet Mask This is the IP subnet mask that the JWS-3 should use to determine whether a connection came from a local network, or should be routed on to another network (see previous setting). All of the IP settings for the JWS-3 must be on the same subnet for communications to be established between the JWS-3 and a browser.

IP Gateway This sets the IP of a router that the JWS-3 can use to locate the browser with which it is communicating. This simply sets a path for the JWS-3 to use to communicate back with the connecting browser.

MAC Address This is the hardware MAC address of the device hosting JWS-3.

4.7.3 Time Zone Settings

It is absolutely necessary that you configure the Time Zone settings to ensure JWS-3 accurately handles time and date information. Enter the time zone where JWS-3 is running. Also select whether or not Daylight Savings Time (DST) is observed in the area, and the relevant date start and end times if so.

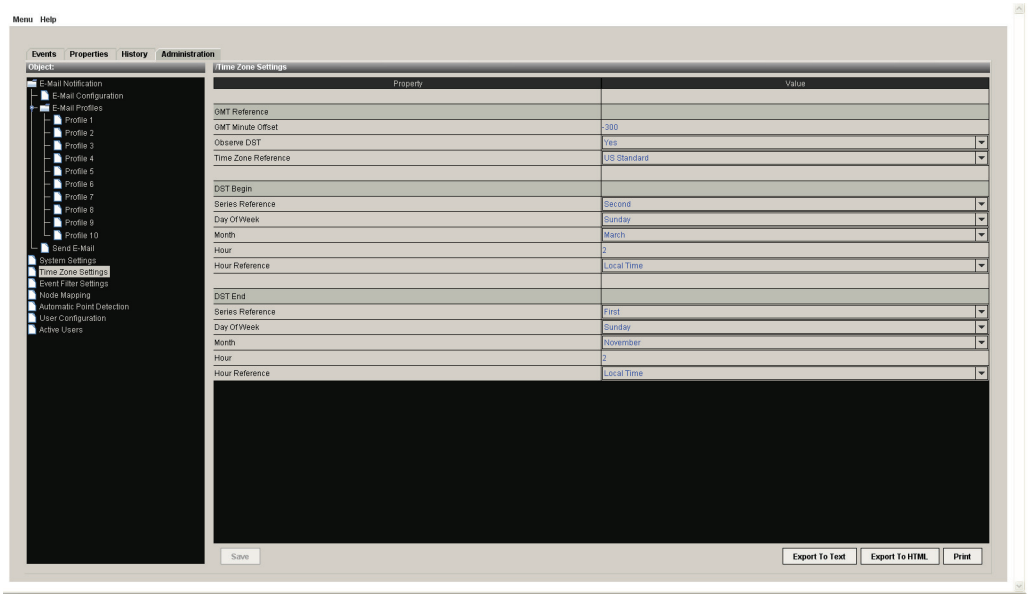


Figure 4.15 Time Zone Settings

4.7.4 Event Filter Settings

Event filter settings allow you to select the event types to be displayed in the JWS-3. Select **No** to disable JWS-3 viewing of the specified event type. The default value for all event types is **Yes**.

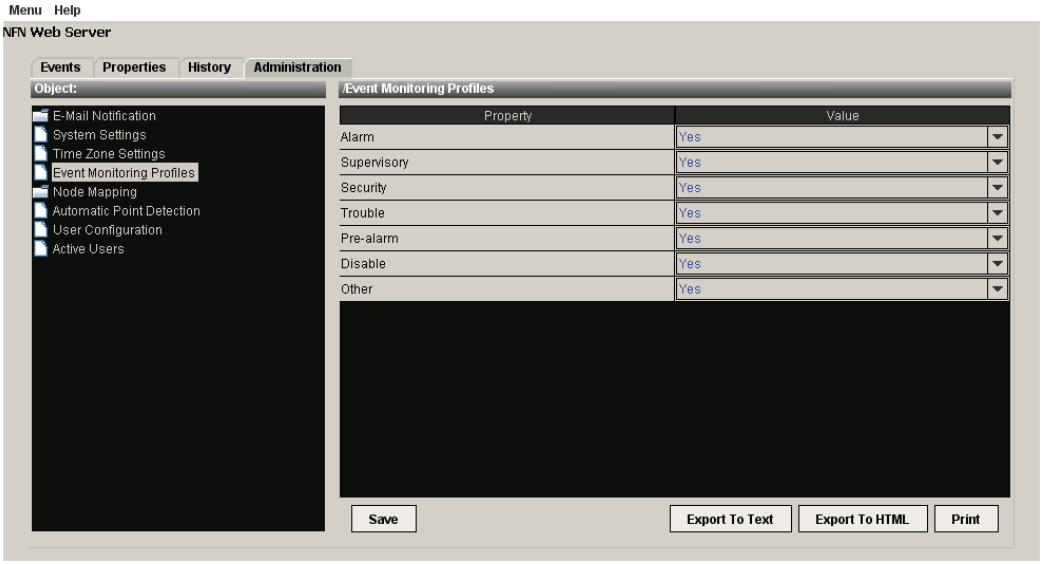


Figure 4.16 Event Filter Settings

4.7.5 Node Mapping

Node Mapping allows the user to map nodes that are active on the NFN network.

NOTE: The default value for node status is Unmapped.

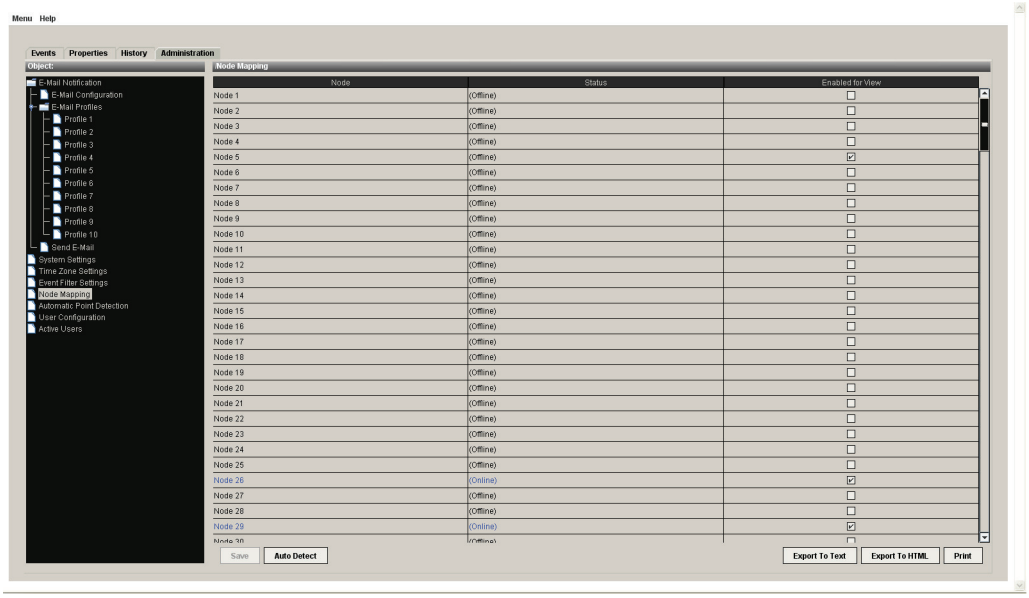


Figure 4.17 Node Mapping

Clicking **Auto Detect** lists all online nodes on the network as "Mapped" and all offline nodes on the network as "Unmapped". When Auto Detect or Change Settings are clicked network data will be accessed to populate a node's field, therefore, the display will refresh collapsing the Menu navigation tree.

If a node is Unmapped, the JWS-3 will not display events from that node. If a new node is installed; you must auto detect or individually map it before it's properties or events will be displayed.

Node Status Values:

- Online - The node was auto detected by the JWS-3, but it will not show up in the Menu at the left, nor will events be displayed, until it is mapped.
- Offline - There is no device detected at that node address. No events will be reported.
- Mapped - If the node is online, it will show up in the Menu, and events will be displayed in the browser.
- Unmapped - The default value; the node is either online with no event reporting, or there is no device detected at that node address. No events or properties will be displayed for unmapped nodes.

4.7.6 Automatic Point Detection

This option auto detects IFC-1010/IFC-2020 points on an NFN network.

How Points Become Visible To The JWS-3

These are the ways a point becomes visible to the JWS-3:

- With IFC/IFC2-3030, IFC/IFC2-640, IFC-320, JNCA, JNCA-2 panels, points are detected automatically when the JWS-3 is connected to the network on which those panels reside. Therefore, point detection for IFC/IFC2-3030, IFC/IFC2-640, IFC-320, JNCA, JNCA-2 panels requires no user action.
- With IFC-1010/IFC-2020 panels, points are only detected when a user starts automatic point detection.
- With IFC-300/400 panels, points are only detected when they generate an event, which can then be seen by the JWS-3; therefore, the only way to add points connected to an IFC-300/400 panel is to manually generate an event for each point.

Events from points that have not been automatically detected will be shown in the Events tab view. In other words, events coming from a classic panel will be logged even if the points themselves did not previously appear in the hierarchy list at the left of the JWS-3 screen.

NOTE: IFC-200 points do not get Auto Detected, and they will not be displayed in the hierarchy list on the left. However, events from an IFC-200 panel and/or point will appear in the Events tab view and can generate e-mail.

NOTE: Only administrators have security access to the automatic point detection feature.

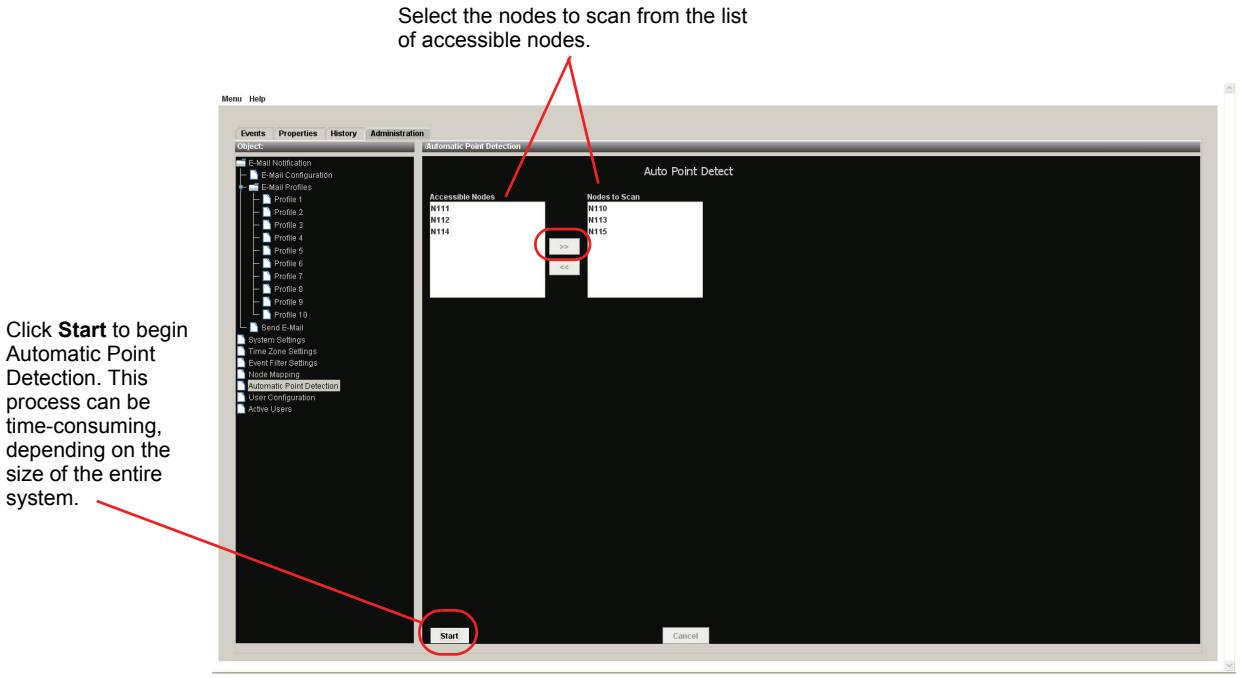


Figure 4.18 Auto Detect Points

The Auto Point Detect feature does not function for the IFC-300/400 panel.

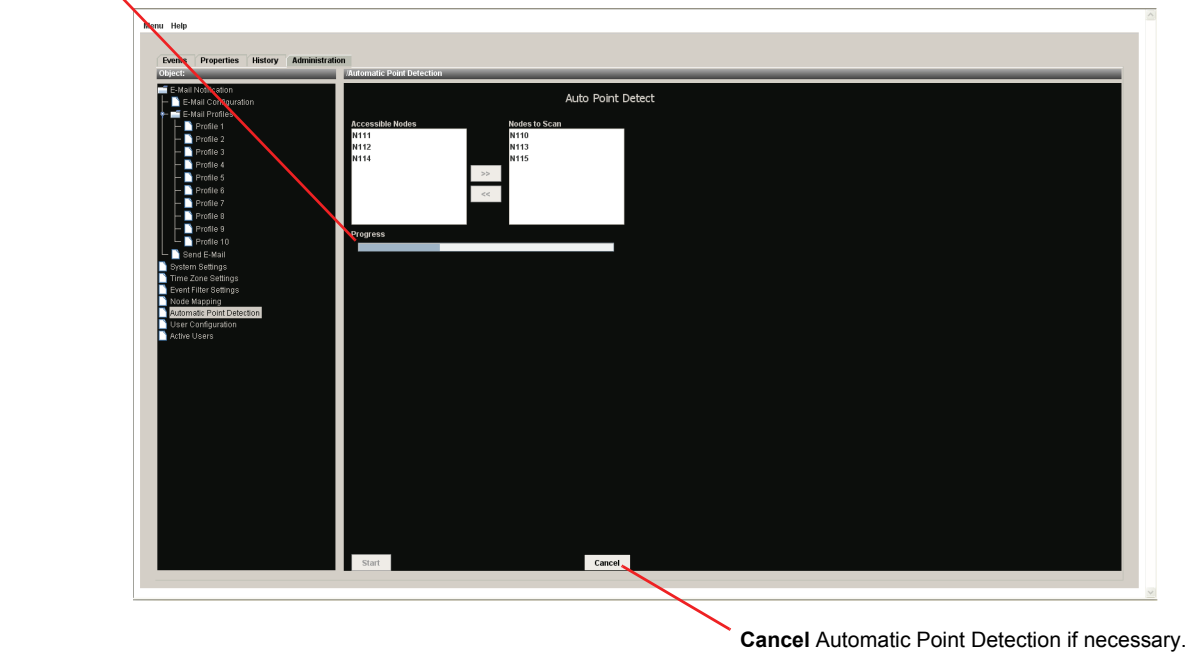


Figure 4.19 Auto Point Detect Screen

Once the Auto Detect has been performed, go to the Node Mapping links and make sure that all node numbers that read "online" are also mapped. See "Node Mapping" on page 40 for more information.

NOTE: Make sure the nodes are online BEFORE performing the auto-detect operation, otherwise the auto detect can't find the nodes.

4.7.7 User Configuration

User Configuration allows you to create, modify, and delete system users and their access profiles. The system will support up to 128 total IDs. The username must be between 3 and 15 characters. The password must be between 8 and 15 characters.

NOTE: Use the **Administrator** checkbox to select whether a user can access the Administration Tab.

NOTE: To ensure system security, when finished with the JWS-3, exit completely out of your internet browser.

Once a user has been created, his/her name is added to the user list. Click a user name in the list to enable/disable a user account and choose System Administration access.

This is where users and their corresponding passwords are created.

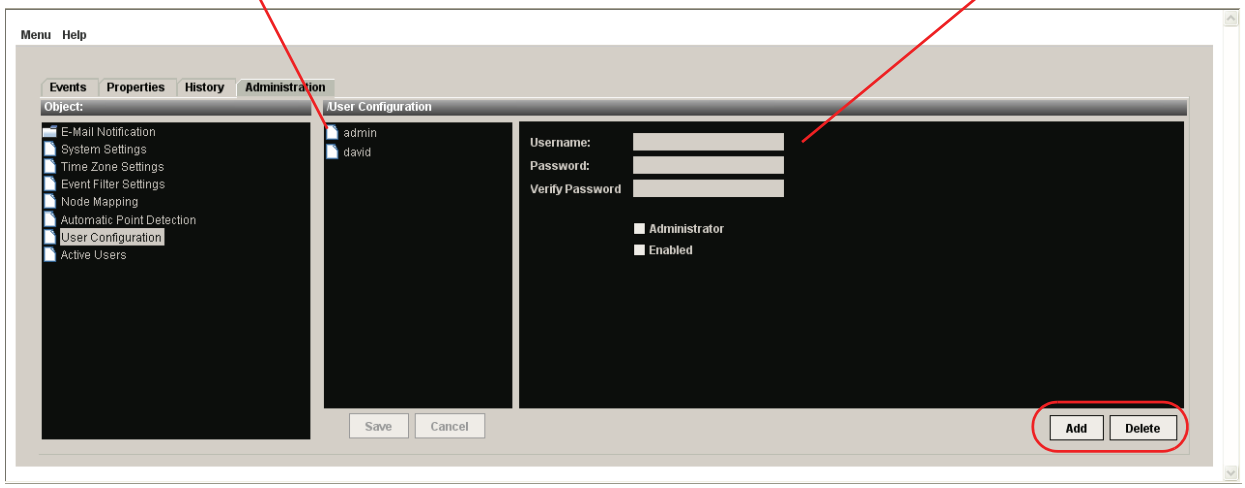


Figure 4.20 User Configuration

4.7.8 Active Users

The Active Users screen shows which users are currently connected to the JWS-3, the IP address of the computer they are using to connect, and the time they logged in.

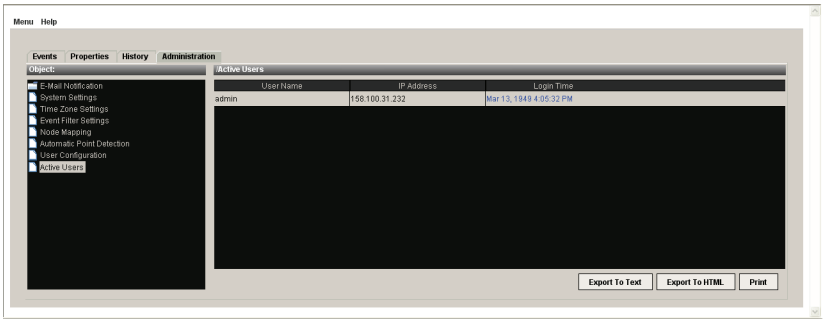


Figure 4.21 Active Users

Appendix A: JWS-3 Compatible Node Types

NOTE: The JWS-3 requires that at least one node on the NFN network be an IFC/IFC2-3030, IFC/IFC2-640, IFC-320, JNCA, JNCA-2 panel. JWS-3 does not run on an NFN network with no IFC/IFC2-3030, IFC/IFC2-640, IFC-320, JNCA, JNCA-2 panels.

A.1 Direct Connect Node Type Compatibility

Table A.1 Panel Communication Connection Table

Panel Type	Connection Type
HS-NCM	USB
IFC-320	NUP
IFC2-640	NUP
IFC2-3030	NUP
NCM	NUP
IFC-640	NUP
IFC-3030	NUP

Appendix B: JWS-3 Local Configuration

NOTE: This procedure is only necessary if you are configuring an JWS-3 using a Configuration PC that is not already on the same IP network as the JWS-3. Refer to “Connect the Configuration PC to the JWS-3” on page 25.

NOTE: A direct connection requires that a cross over Ethernet cable to be made or purchased by the customer.

B.1 Direct Connection to the Gateway PC Board

Step 1. Connect the cross over cable between the Configuration PC network card’s RJ45 connector and the JWS-3 PC board’s RJ45 connector (refer to "Cross Over Cable Specifications").

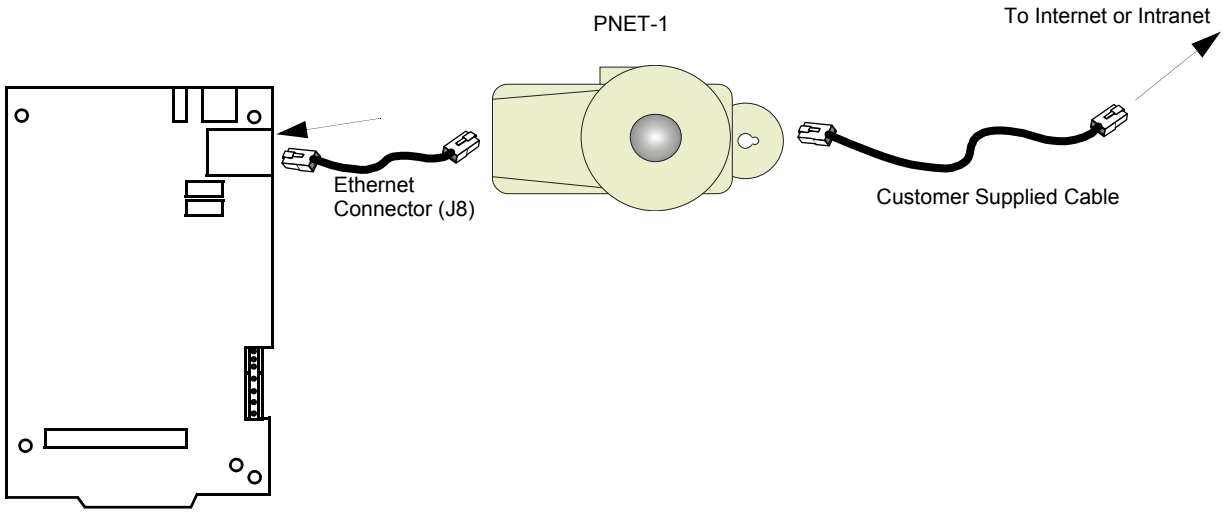


Figure B.1 Configuration PC Direct Connection

Step 2. You have completed the connections, proceed to “IP Network Configuration” on page 25.

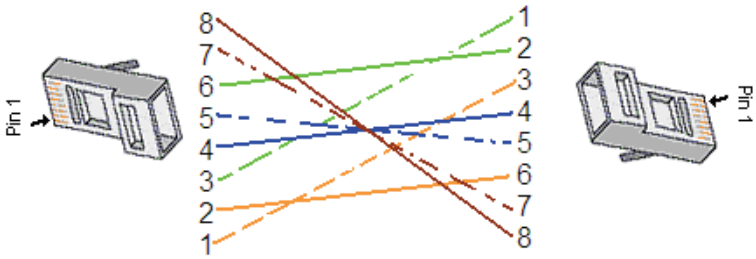
■ Cross Over Cable Specifications

This cross over cable will be directly connected between the Configuration PC network card’s RJ45 connector and the JWS-3 PC board’s RJ45 connector.

The cross over cable can be purchased or you can make one. Please use the following information for the correct pinout requirements for each end of the cable. EIA/TIA wire color-code standard 568B is applicable.

Table B.1 Cross Over Cable (568B)

RJ45 Pin # (END 1)	Wire Color	Diagram End #1	RJ45 Pin # (END 2)	Wire Color	Diagram End #2
1	White/Orange		1	White/Green	
2	Orange		2	Green	
3	White/Green		3	White/Orange	
4	Blue		4	Blue	
5	White/Blue		5	White/Blue	
6	Green		6	Orange	
7	White/Brown		7	White/Brown	
8	Brown		8	Brown	



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